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FM 6-61

DEPARTMENT OF THE ARMY FIELD MANUAL

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FIELD ARTILLERY BATTALION, HONEST JOHN

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FIELD MANUAL

No. 6-61

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 4 April 1966

FIELD ARTILLERY BATTALION, HONEST JOHN

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*This manual supersedes FM 6-61, 31 December 1959, including C 2, 30 January 1962 and C 3, 12 September 1963.

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CHAPTER 1

INTRODUCTION

1. Purpose and Scope

a. This manual is a guide for artillery commanders at all levels for the employment of Honest John battalions. This manual is applicable to units organized under TOE 6-525 or TOE 6-175. In general, material in this manual applies to both the divisional Honest John batteries (TOE 6-176 and TOE 6-177) and the nondivisional batteries (TOE 6-526 and TOE 6-527) without modification. Areas with differences are noted in the manual. The manual covers mission; system description; organization; command; tactical employment; reconnaissance, selection, and occupation of position; organization of position; security; communications; survey; administration and logistics; air transportability; and training.

★b. This manual presents information peculiar to the Honest John battalion, emphasizing established field artillery principles and techniques in their application to this type of battalion and is in consonance with the following International Standardization Agreements which are identified by type of agreement and number at the beginning of each appropriate chapter in the manual: STANAG 2103, Reporting Nuclear Detonation Radioactive Fallout and Biological and Chemical Attacks; STANAG 2104, Friendly Nuclear Strike Warning to Armed Forces Operating on Land; STANAG 2113, Destruction of Military Technical Equipment.

★c. The material presented herein is applicable to nuclear and nonnuclear warfare, to stability operations, and to the employment of and defense against chemical, biological, and radiological agents.

d. Supplemental information which requires

security classification is contained in FM 6-40-1A.

e. Applicable safety rules approved by the Department of Defense for peacetime operational use are implemented through command directives. Commanders must insure that appropriate personnel understand and comply with these rules.

★f. Users of this manual are encouraged to submit recommended changes or comments to improve the manual. Comments should be keyed to the specific page, paragraph, and line of the text in which the change is recommended. Reasons should be provided for each comment to insure understanding and complete evaluation. Comments should be forwarded direct to the Commanding Officer, U.S. Army Combat Developments Command Artillery Agency, ATTN: CAGAT-DC, Fort Sill, Oklahoma 73503. Changes involving safety of personnel should be transmitted by electrical means. Originators of proposed changes which would constitute a significant modification of approved Army doctrine may send an information copy, through command channels, to the Commanding General, U.S. Army Combat Developments Command, Ft. Monroe, Virginia 22060 to facilitate review and followup.

2. Use

a. Use of this manual is predicated on the knowledge and understanding of field artillery tactics, techniques, and organizations as presented in FM 6-20-1, FM 6-20-2, FM 6-10-1, and FM 6-140. The above named manuals should be studied in conjunction with this manual since many of the principles and techni-

ques for employment of other types of artillery also apply to the Honest John battalion.

b. Where the term "artillery" is used in this manual, it refers to field artillery.

c. Where the term "field artillery battery" is used in this manual, it refers to an organic battery of the Honest John battalion having the capability of firing an Honest John rocket.

3. References

Appendix I contains a list of publications pertaining to Honest John battalions.

4. Mission

The mission of the Honest John battalion is to provide field artillery rocket fires with a variety of warheads in general support of corps or division, to reinforce the fires of other artillery units, and to provide fire support to allied nations as a firing element of the U.S. Army missile commands.

5. Classification

The Honest John is classified as a field artillery long range rocket (FM 6-20-1).

6. Description of Honest John System

a. The Honest John rocket is a free-flight, solid propellant, field artillery rocket. The horizontal range capability of the MGR-1A rocket is from 5,000 meters to a maximum of 25,900 meters; of the MGR-1B rocket, 5,000 meters to 38,000 meters (fig. 1). Specific range capabilities depend on the launcher used, the warhead section fired, and meteorological conditions. (See appropriate firing table.) The rockets are capable of carrying warhead sections weighing 1,650 pounds. The probable error of each rocket varies with the range and is listed in the firing tables for range (ground impact), deflection (ground impact and airburst), and height of airburst. Warhead sections employed include nuclear, high explosive, chemical, and practice types.

b. Three types of launchers are available for firing the Honest John rocket. They are the M289 (SP), the M386 (SP), and the M33 (towed). The M33 (towed) is a lightweight

launcher (4,400 pounds) designed for air and helicopter transportation. All launchers are equipped with rail-type launching beams which are traversed and elevated (depressed) to provide guidance for the rocket. The beam of the M289 is 42 feet 4 inches in length and provides 30 feet of guidance to the rocket. The beam of the M386 is 32 feet 5 inches in length. The beam of the M33 is 28 feet 10 inches in length. Both the M386 and M33 beams provide 15 feet of guidance to the rocket.

c. The rocket is fired using the firing box assembly M35 and vehicle batteries, or the firing box assembly and batteries BA-605/U. The two methods of firing are described in TM 9-1340-202-12. The firing box is emplaced at least 90 meters from the launcher.

d. The rocket motor provides a standard thrust at a propellant temperature of 77° F. Burning time of the rocket motor depends on the propellant temperature and other factors. Heating blankets are provided to "temperature condition" the rocket motor and to minimize the temperature variations in the propellant. The procedure for temperature conditioning of rockets is provided in FM 6-40-1. Specific temperature limits are as follows:

	MGR-1A rocket	MGR-1B rocket
★Firing	0° to 100° F	-20° to 120° F*
Handling	0° to 120° F	-40° to 120° F
Storage	-10° to 120° F	-65° to 130° F

*The performance reliability of the M66A1 and M66 rocket motors at temperatures above 100° F can be expected to decrease. The reliability is 91 percent with an assurance of 90 percent at a temperature of 120° F.

★Note. Chapter 4, TM 9-1340-202-12, prescribes additional guidance and cautions when storage limits are approached or exceeded.

★c. The rocket receives no significant guidance in flight; it follows a ballistic trajectory (fig. 2) comparable to trajectories of cannon-type artillery projectiles (FM 6-40). Stability of the rocket in flight is achieved through the use of four tail fins. Spin rockets mounted in pairs (four pairs in the MGR-1A and two pairs in the MGR-1B) are incorporated into the rocket to reduce the effects of thrust malalignment caused by manufacturing imperfections, uneven burning, and thrust variations. The spin rockets are mounted around the circumference of the pedestal section

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SIGNIFICANT CHARACTERISTICS

MGR-1A ROCKET

5,900 POUNDS

1,650 POUNDS

3,520 POUNDS

3,850 POUNDS

2,050 POUNDS

25,900 METERS

5,000 METERS

APPROXIMATE GROSS WEIGHT

WARHEAD SECTION WEIGHT
(NONNUCLEAR)

EMPTY WEIGHT (LIGHT WARHEAD)

EMPTY WEIGHT (HEAVY WARHEAD)

PROPELLANT WEIGHT

MAXIMUM RANGE

MINIMUM RANGE

MGR-1B ROCKET

4,719 POUNDS

1,650 POUNDS

2,630 POUNDS

3,020 POUNDS

1,665 POUNDS

38,000 METERS

5,000 METERS

NOTE: SPECIFIC SITUATIONS MAY RESULT
IN FURTHER ADJUSTMENT TO THE ABOVE
MINIMUM RANGES.

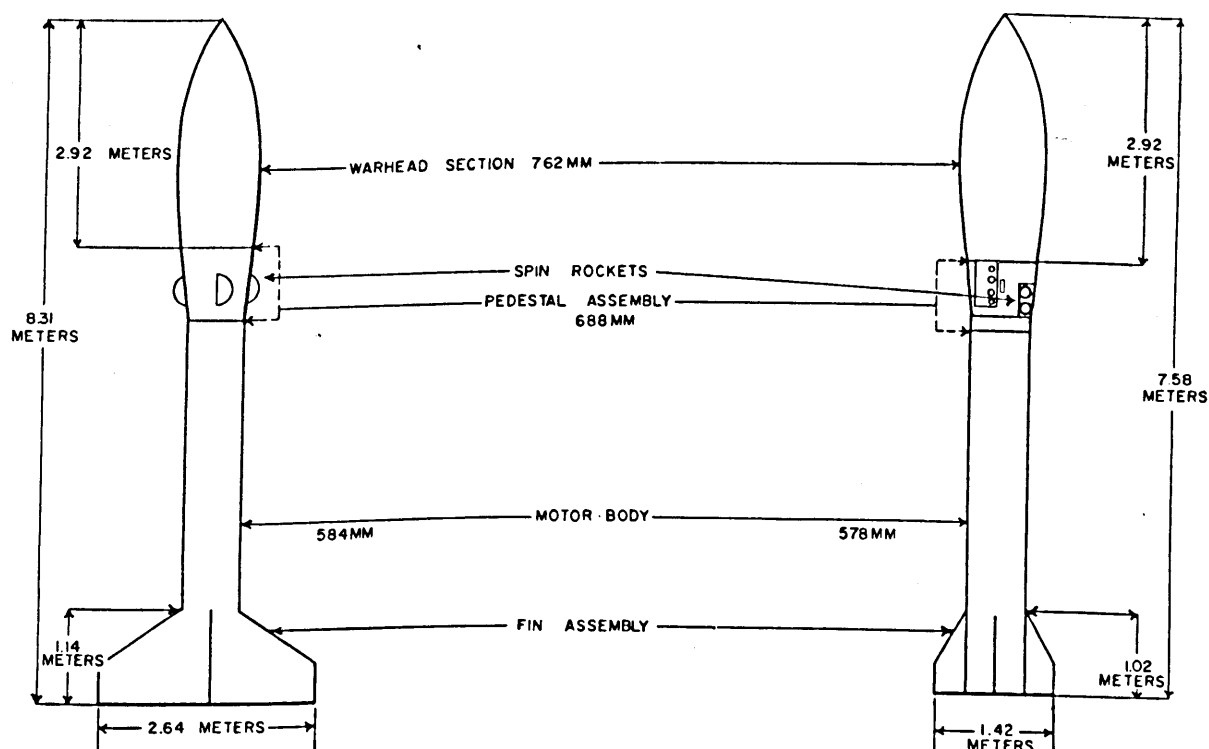


Figure 1. Significant characteristics of MGR-1A and MGR-1B rockets.

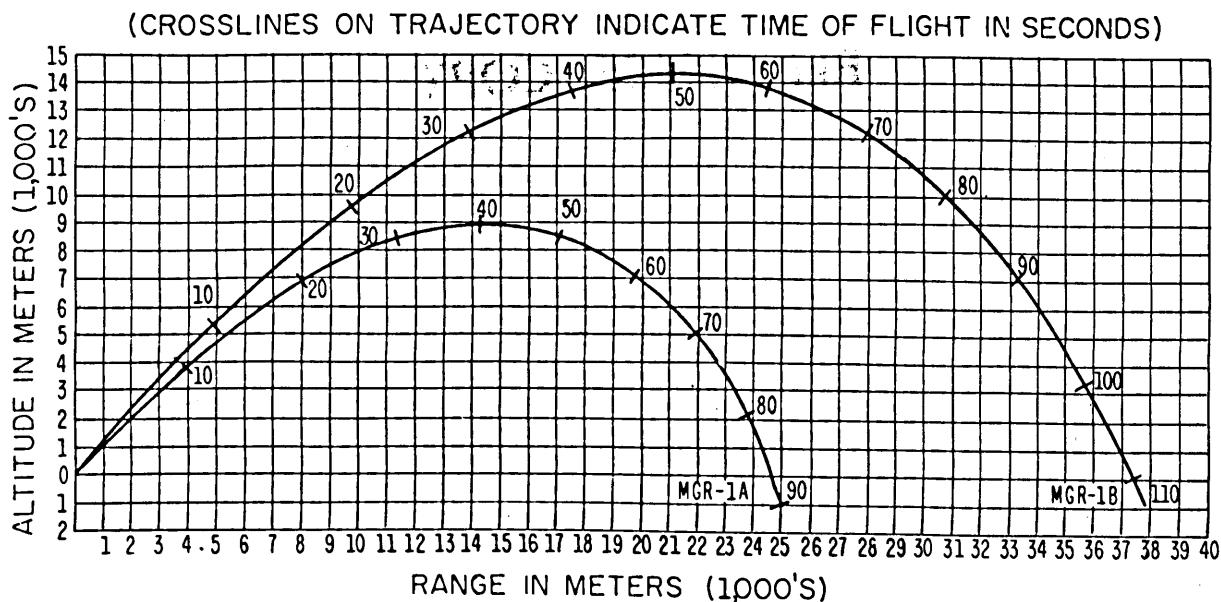


Figure 2. Characteristic trajectories.

(90° apart in the MGR-1A and 180° apart in the MGR-1B) and are ignited automatically as the rocket leaves the launcher. When ignited, the spin rockets produce thrust perpendicular to the longitudinal axis of the rocket. The spin rockets impart a clockwise spin to the rocket. This rotation is maintained in flight by the cant of the tail fins.

f. Sighting and laying equipment used to orient the rocket launcher is essentially the same as that used with cannon-type artillery. The specific items of equipment used with each launcher are as follows:

Launcher	Fire control quadrant	Telescope mount	Telescope
M33	M1 or M1A1	M37	XM43 or XM53E2
M289	M1 or M1A1	M30	M12A7C
M386	M1 or M1A1	M30	M12A7C

g. Other ancillary equipment required to handle and prepare the rocket for firing includes a handling unit on which the rocket is assembled and transported in the assembled condition (the assembled rocket may also be transported on the launcher), a heating and tiedown unit (truck mounted for transport

and conditioning of unassembled rockets and components), a medium wrecker used for loading operations, a wind measuring set used to obtain corrections for low-level winds, and test equipment for the rocket and warhead sections.

h. The maximum rocket carrying capability of the divisional battalion, using organic vehicles (8 rocket handling units, 8 heating and tiedown units, and 4 launchers), is 20. The maximum rocket carrying capability of the non-divisional battalion, using organic vehicles (12 rocket handling units, 12 heating and tiedown units, and 6 launchers), is 30. This capability includes heating the rockets in transport and during on-carriage storage. If rounds are carried on all heating and tiedown units, handling units and launchers, then the particular warhead/motor combination on the launcher must be fired before any other rounds can be fired.

i. For a detailed description of the rocket launcher and associated equipment, refer to appropriate technical manuals in the TM 9-1055-series.

CHAPTER 2 ORGANIZATION

7. General

a. Honest John Battalion (Divisional). The infantry, mechanized, and armored divisions have an organic Honest John battalion. The organization of the battalion, prescribed by TOE 6-175, is shown in figure 3. The headquarters and headquarters battery is organized under TOE 6-176; the two field artillery batteries, Honest John, are organized under TOE 6-177.

b. Honest John Battalion (Nondivisional). The organization of the battalion is prescribed by TOE 6-525. The headquarters, headquar-

ters and service battery is organized under TOE 6/526, and three field artillery batteries, Honest John, are organized under TOE 6-527.

8. Headquarters and Headquarters Battery, Divisional Battalion; Headquarters, Headquarters and Service Battery, Nondivisional Battalion

The headquarters and service elements of the headquarters and headquarters battery and the headquarters, headquarters and service battery are organized to perform the normal command, administrative, supply, and maintenance function for the Honest John battalion.

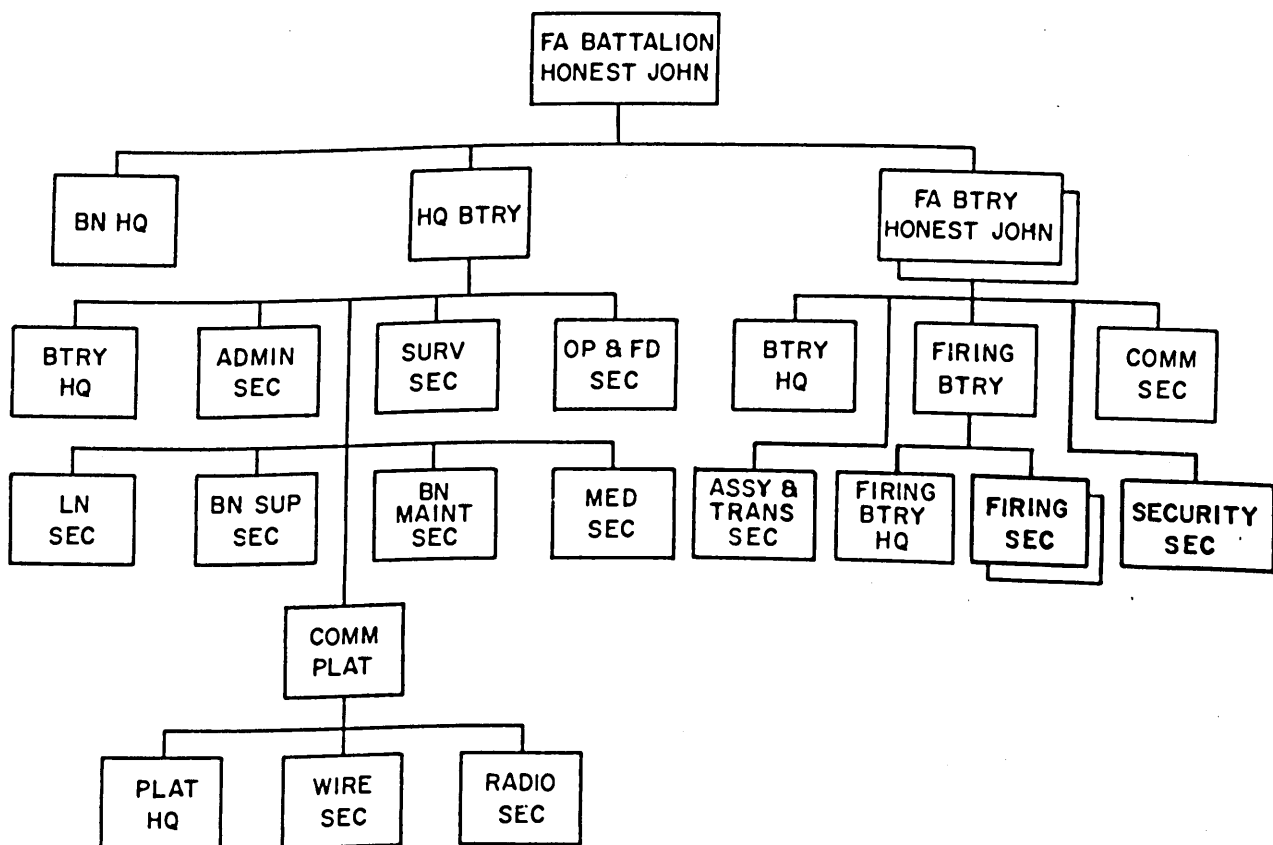


Figure 3. Field artillery battalion, Honest John, divisional.

In addition, they perform the survey, fire direction, and other functions peculiar to the Honest John battalion. Staff functions are defined in paragraphs 12 and 13. Responsibilities of subordinate elements in these batteries are as follows:

a. Battery headquarters contains the necessary personnel to provide administration, mess, supply, and limited vehicle maintenance for the headquarters battery.

b. The operations and fire direction section performs fire direction for the battalion. This section also has the responsibility for performing the intelligence functions for the battalion.

c. The survey section performs all survey required within the battalion. The section has the necessary personnel and equipment to provide the field artillery batteries with survey of fifth-order (1:1,000) accuracy.

d. The liaison section establishes and maintains liaison with the next higher artillery headquarters or supported unit as required.

e. The communications platoon installs and maintains all field wire systems within the battery and is responsible for the installation of the necessary circuits to the batteries. This platoon operates radio sets in higher artillery headquarters nets. It also performs organizational maintenance on all radios of the battalion.

f. The administrative section personnel support the battalion commander, executive officer, and the staff, to include the Sergeant Major.

g. The personnel section, found only in the nondivisional battalion, performs all administrative functions pertaining to personnel management. The majority of the personnel functions of the divisional battalion is performed by the personnel service division, AG section of the division administration company. The battalion may be augmented by personnel of the administration company when detached from the division.

h. The maintenance section performs all organizational motor maintenance for the battery except driver maintenance. This section also provides organizational maintenance assistance to the field artillery batteries when required.

i. The supply section is responsible for drawing and issuing all classes of supply, except Honest John rockets and warheads, for the battalion.

j. The medical section provides the same medical service as that provided in other field artillery battalions.

k. The nondivisional battery has an organic meteorological capability when augmented by the meteorological section.

9. Field Artillery Battery, Honest John Divisional Battalion

The organization of the field artillery battery organic to a divisional Honest John battalion is shown in figure 3. The functions of the elements of the field artillery battery are as follows:

a. Personnel of the battery headquarters assist the battery commander in the administrative, logistical, and tactical operation of the battery.

b. As the firing elements of the battery, the firing sections load, test, and fire the rockets and store their portion of the basic load of conventional ammunition.

c. The assembly and transport (A&T) section draws and transports rockets and warhead sections in containers from the special ammunition supply point (SASP), removes the rockets and warhead sections from their containers, assembles the rockets, performs certain inspection and test on the rockets and warhead sections to insure their serviceability, and delivers them to the firing sections when directed. Assembly operations by the A&T section include mating the warhead sections to the rocket motors prior to their delivery to the firing section. The A&T section transports and stores its portion of the basic load of conventional ammunition plus its special ammunition load (SAL) (para 55b) and assists the firing sections in loading operations.

d. The security section is responsible for the security of the special ammunition load (SAL) in the exclusion area or other areas as required.

e. Functions of the other elements of the battery are similar to those described in FM 6-140.

10. Field Artillery Battery, Honest John, Nondivisional Battalion

The organization of the field artillery battery organic to a nondivisional Honest John battalion is almost identical with that of the divisional battalion shown in figure 3. The major

exception is that the firing elements of the nondivisional field artillery battery are organized into two firing platoons, each with a platoon headquarters and one firing section. The functions of the elements of this battery are the same as those described in paragraph 9.

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CHAPTER 3 COMMAND

11. Battalion Commander

The battalion commander commands the battalion and, with the assistance of his staff, controls and supervises all tactical, administrative, and logistical activities of the battalion. His responsibilities are essentially the same as those outlined in FM 6-20-2. The battalion commander advises the next higher commander on the employment of the battalion and its capabilities and limitations.

12. Battalion Staff

The discussion of battalion staffs in FM 6-140 is generally applicable to the Honest John battalion. Responsibilities of staff officers in this battalion are as follows:

a. The battalion executive officer and S1-adjutant perform duties as described in FM 6-140.

b. The battalion S2 performs the normal duties of an artillery battalion S2 as described in FM 6-140 less target acquisition. Administrative duties pertaining to safeguarding of classified material and training are increased because of the volume of classified material in the unit.

Note. The TOE for the divisional Honest John battalion does not authorize an S2. The assistant S3 in this unit will normally assume the responsibilities of an S2.

c. The battalion liaison officer's duties are similar to those described in FM 6-20-2 and FM 6-140 for the general support battalion liaison officer, except that his duties with respect to fire support coordination and fire planning are normally advisory in nature. His duties may include transmitting fire plans, fire missions, and other information to the battalion. He must maintain current information concerning individual battery states of readiness, limitations of various firing positions, resupply capabilities, and other technical matters.

d. The battalion S3 performs the normal duties of an artillery battalion S3 as described in FM 6-140. The S3 controls the fires of the battalion from the battalion fire direction center (FDC) as outlined in FM 6-40-1.

e. The S4 performs duties as described in FM 6-140. He coordinates and supervises the general maintenance and supply functions of the battalion for the commander. He is assisted by a motor warrant officer in charge of the maintenance section and a supply warrant officer in charge of the supply section. The S4 performs the duties of a battalion motor officer and ammunition officer in addition to his other duties.

f. The duties of the battalion survey officer conform to the duties of the reconnaissance and survey officer discussed in FM 6-2 and FM 6-20-2. The survey officer should be consulted before any plans are made which affect survey operations. This is particularly true of plans for establishing or changing locations of firing positions.

g. The communication officer exercises immediate staff supervision in the training of communication personnel and in the installation, operation, and maintenance of the battalion communication system. For a detailed list of duties see FM 6-10 and FM 6-140.

h. The battalion surgeon performs the normal duties of a surgeon as outlined in FM 6-140. He advises the battalion commander and staff on all matters pertaining to sanitation and health of the command.

i. The battalion sergeant major performs the normal duties of a sergeant major as described in FM 6-140. The battalion sergeant major is also the troop education noncommissioned officer.

13. Headquarters and Service Elements

The battery commander of the headquarters battery performs the duties described in FM

6-140. The personnel of the headquarters battery are commanded by the battery commander; however, they perform the greater part of their work under the supervision of battalion staff officers. The battery commander is assisted by the assistant communications officer, who also is the battery executive officer and communications platoon leader.

14. Field Artillery Battery

The field artillery battery commander is responsible for the training and tactical employment of all elements of the field artillery battery. He is also responsible for the operation

and maintenance of all battery equipment. He supervises the field artillery battery in preparing for and executing fire missions. He is responsible for the local security of the battery position area and firing positions. In addition, he is responsible for the battery mess, maintenance, supply, fire direction center, communications, and assembly and transport operations. He commands the minimum elements required to receive, process, and accomplish a fire mission and, except for survey, has the necessary support elements to permit the field artillery battery to operate as an independent battery for short periods of time.

CHAPTER 4

TACTICAL EMPLOYMENT

15. Assignment

a. Nondivisional Battalions. The nondivisional Honest John battalion is usually assigned to a field army or to an independent corps or it may be organic to a missile command. When assigned to a field army, the battalion may be attached to corps for further attachment to field artillery groups and divisions as required.

b. Divisional Battalions. The divisional Honest John battalion is organic to each infantry, mechanized, and armored division artillery.

16. Considerations in Organization for Combat

a. The principles of maneuver, mass, surprise, and economy of force, as applied to artillery, assume increased importance in the employment of the Honest John battalion because of the range capabilities of weapons, the area of responsibility over which fires must be brought to bear, and the presence of a nuclear capability.

b. The nondivisional Honest John battalions will normally remain under corps artillery control; however, the corps artillery commander may attach the battalions to field artillery groups or divisions. The battalions may be assigned the tactical mission of general support of corps or reinforcing the fires of division artilleries.

c. The divisional Honest John battalion will normally remain under division artillery control, with the tactical mission of general support of the division or reinforcing the fires of a direct support battalion. Under unusual circumstances, such as supporting an independent brigade operation, an Honest John battery may be attached to a direct support battalion.

17. Capabilities and Limitations of Employment

a. Capabilities. Capabilities of the Honest John battalion are as follows:

(1) This battalion can supplement the fire power capabilities of cannon-type field artillery units with a variety of warhead sections. These warhead sections include nuclear, chemical, and high explosive types.

(2) It furnishes its portion of the communication, liaison, and survey required by the battalion mission.

(3) It draws, transports, stores, assembles, tests, and maintains rockets and associated equipment.

(4) It provides unit level medical service, to include medical care and evacuation, establishes an aid station, and provides aidmen to the battalion's subordinate units.

(5) It transports the battalion basic load of conventional ammunition plus the special ammunition load (SAL).

(6) The battalion is 100 percent mobile.

(7) The supersonic speed of the Honest John rocket makes interception and destruction difficult throughout its trajectory. This speed also increases the possibility of obtaining tactical surprise, thereby increasing the effectiveness of its fires.

(8) Firing platoons (sections) may operate independently at remote distances from each other and from the remainder of the battalion for short periods of time. In such instances, the platoons (sections) must be augmented with survey, assembly and transport, fire direction center, and security elements.

(9) The battalion can fire during darkness and periods of inclement weather.

(10) The battalion can successfully attack targets so heavily defended by air defense units, fighter aircraft, or both, that employment of tactical air against the targets is not feasible. The battalion can be employed effectively as the sole means of attack or it may be used to weaken the enemy defenses to such a degree that friendly aircraft can attack the target without incurring excessive losses.

★(11) For capabilities pertaining to nuclear employment, see FM 6-40-1A. For capabilities pertaining to the employment of chemical munitions, see FM 3-10B. For employment in stability operations, see FM 6-20-1.

b. Limitations. Limitations of the Honest John battalion are as follows:

★(1) Firing at small point targets requiring direct hits or at close-in targets is not feasible because of the probable error of the weapon system. (See appropriate firing table). However, if a target is considered sufficiently critical (e.g., key bridge), it can be destroyed with a nuclear warhead. Due to the rather large vertical probable error, the maximum effective range of the weapon will be somewhat less than the maximum ground impact range. This limitation becomes especially significant when it is necessary to raise the height of burst to reduce the probability of fallout from a nuclear burst.

(2) The battalion cannot fire immediately at targets of opportunity.

(3) Minimum range varies with the meteorological conditions and other conditions described in FM 6-40-1. When the MGR-1A rocket is fired from the M289 launcher, the nominal minimum range of 5,000 meters should be increased to 6,200 meters. Although the nominal minimum range for the MGR-1B rocket is 5,000 meters, the safety criteria may preclude impact fuzing at this range. Further limitations pertaining to airburst fuzing are discussed in FM 6-40-1A. In each case where minimum range is a factor, the final minimum elevation must be closely checked for all existing conditions.

(4) Simultaneous independent employment of all launchers emplaced in widely sep-

arated positions is beyond the immediate capability of this battalion (a(8) above).

(5) The battalion is responsible for its local security (ch 7) but has only a minimum capability for defense against ground attack. The battalion has only limited capabilities for defense against air attack. Additional security forces, in both numbers and capabilities, may be required to maintain adequate, continuous security for the position area perimeter and the exclusion area, particularly during counterinsurgency operations.

(6) Particular emphasis must be placed on the considerations of adequate cover and concealment in all phases of tactical employment of this battalion. In addition, numerous alternate position areas with supporting exclusion areas and hide positions scattered in width and depth across the assigned zone are required to insure adequate survivability.

(7) The characteristic dust cloud and debris raised by the blast of the rocket motor upon firing and noise, flame, and smoke train of the rocket while in flight may compromise the location of the firing position resulting in enemy detection and counteraction.

★(8) For limitations pertaining to nuclear employment, see FM 6-40-1A. For limitations pertaining to the employment of chemical munitions see FM 3-10B.

18. Employment

a. The force artillery commander selects the general areas in which the Honest John battalions under his control will be deployed. In selecting these areas, he considers the nature of the tactical operation, the number of Honest John battalions under his control, the zone of action of the support unit, the fire capabilities of the battalion (para 6), the terrain, the available natural camouflage, and the security situation. He must consider the minimum and maximum range of the Honest John rocket to assure himself that the Honest John battalion can fulfill its mission. The Honest John battalion commander selects a battalion position area and several alternate areas within the limits of the area assigned by the force artillery commander. It may be neces-

sary to employ the battalion with considerable lateral distance between the field artillery batteries in order to obtain adequate coverage of the front.

b. When field artillery batteries are located a long distance from the battalion position, control factors, security, and resupply problems must be considered.

c. Position area selection will be affected by range considerations and quadrant elevation and mask limitations.

d. Battalions are separated laterally to preclude an enemy nuclear attack from significantly affecting more than one battalion. Similarly, batteries within the battalion are also separated whenever possible. Primary and alternate positions should also be separated enough to preclude an enemy nuclear attack directed at the primary position from significantly affecting alternate positions.

e. The force artillery commander should select and reserve a number of battalion position areas as far in advance as possible in order to allow battalions adequate time for reconnaissance and preparation of positions.

f. Position areas for Honest John battalions must be at least 1,000 by 2,500 meters, and may be as large as 15 kilometers by 15 kilometers. A battalion position area will always include firing positions. Additional firing positions may be located outside the position area to provide the desired fire capabilities. The Honest John battalion commander should not be restricted to the battalion position area in locating firing positions if the full capabilities of the Honest John system are to be realized. Units of the battalion may be collocated in counterinsurgency operations to reduce local security requirements.

g. The use of and the protection from chemical, biological, and radiological agents must be considered as a normal and essential element of system employment techniques by commanders at all echelons. For details on CBR decontamination, see TM 3-220.

19. Displacements

a. *General.* Authority to order displacements is as set forth in FM 6-20-1.

b. *Frequency.* In certain situations, frequent displacement of battalions or only the firing elements thereof may provide the best protection against enemy detection and attack. Since the Honest John battalion is normally deployed in areas within enemy cannon artillery range, counterbattery fire can be expected on positions once they are disclosed. The following considerations influence the frequency of displacements:

(1) Capability of the battalion to support the operation and to deliver timely fire.

(2) Mission, zone of action, and deployment of the maneuver elements.

(3) The enemy's capability to locate the battalion position or portions thereof.

(4) The enemy's capability to react promptly upon the discovery of the battalion position or portions thereof.

(5) The availability of position areas.

(6) Trafficability of terrain.

(7) Time available for preparation of position.

(8) Restrictions by higher headquarters.

(9) Density of other units in the area.

c. *Methods.* A battalion may displace by infiltration, in two or more echelons, or as a unit. When displacement during daylight is necessary, displacement by infiltration over multiple routes provides protection against attack and hinders enemy detection of new position areas. The Honest John battalion has the capability of maintaining continuous fire support while displacing by echelon.

d. *Time.* To avoid disclosing the locations of battalion position areas, the force artillery commander should displace battalions during darkness, inclement weather, and other periods of limited visibility when possible.

e. *Security in Counterinsurgency Operations.* Security considerations may require displacement by unit convoy, reinforced with additional security elements. For a general discussion of convoy security, see FM 31-16, FM 31-22, and the FM 7-series.

20. Observation and Intelligence

a. The battalion has no target intelligence responsibilities but depends on higher artillery headquarters or the reinforced unit for producing this information, (FM 6-20-1). Other combat intelligence functions are extremely limited, since the battalion has no observation or other intelligence collection agencies. The battalion depends on combat intelligence and other information disseminated by higher headquarters to fulfill its needs for knowledge of the enemy and friendly situation, terrain, and forecast of weather. The battalion commander supplements this information by reconnaissance, liaison, and personal contact so that he can obtain a thorough knowledge of the situation and terrain and be in a position to recommend position areas to the force artillery commander.

b. The battalion may be required to employ or assist in the employment of deception measures to prevent focusing enemy intelligence efforts on the battalion area. These deception measures conform to the mission and to counterintelligence and deception plans of higher headquarters. For further information on deception, see FM 6-20-1.

21. Fire Planning and Fire Support Coordination

★a. The fire planning and fire support coordination functions of the battalion are normally advisory in nature and are based on the tactical mission assigned to the battalion. The location of firing positions selected by the battalion must be forwarded to higher headquarters for purposes of target analysis and fire planning.

b. When a higher artillery headquarters or fire support coordination agency is planning and coordinating the fires of the battalion, the liaison officer of the battalion acts as an advisor on the capabilities and limitations of the Honest John system.

c. Fires of the battalion are planned, coordinated, and integrated with other fires and with maneuver elements in accordance with existing principles for the employment of fire support as set forth in FM 6-20-1.

d. Responsibility for surveillance of fires of the battalion and for assessment of target damage is specified by the artillery commander assigning the fire mission.

e. Organization, procedures, and training must be directed toward reducing the time required for battalions to execute fire missions. Timely warning orders will assist the battalion in reducing reaction time.

22. Time Sequence of Firing Operations

★a. The initial preparations include those procedures that can be conducted prior to the receipt of a fire mission. The time required for this phase of the operation will vary according to the method of movement, the time of day, the weather, and the battlefield environment. With trained crews, no malfunction, and reasonable weather conditions, the average times that can be used for planning purposes are shown in table I, appendix II. (FM 6-40-1A lists similar average time factors for use when planning nuclear fires.) These average times should serve as intermediate training goals only. When a high state of unit training is achieved and teamwork and techniques are refined, the times will be shortened. Conversely, it must be recognized that enemy interference, equipment breakdown, or faulty test indications will extend the times listed.

b. Table II, appendix II, gives the average times for firing operations for four separate tactical situations, with elapsed times derived from table I, appendix II. The use of FADAC equipment will further reduce reaction time in cases where gunnery computations contribute to increased times. The tactical situations shown are those most likely to be encountered in the field. The information in tables I and II will be of assistance to the commander for planning purposes and in reporting his unit's state of readiness to higher headquarters.

c. For planning factors and time sequence for Honest John nuclear operations, see FM 6-40-1A.

23. State of Readiness

a. A maximum state of readiness, consistent with the situation, is fundamental to the effective tactical employment of Honest John units. It is attained through the accomplishment of all possible actions which may be taken considering the method of deployment, the capabilities of friendly and enemy forces, and the characteristics of the Honest John system.

b. Specific readiness requirements will be established by the force commander in the theater of operations. The Honest John battalion commander is responsible for keeping the appropriate higher commander informed of the state of readiness of the battalion.

★c. The states of readiness listed in (1) through (4) below reflect material readiness levels of the system and the desired state of training of the battalion. They are provided as a guide for adapting the system capabilities to theater readiness requirements. Travel time to firing positions is not included. This time will be provided by the units.

(1) State IV.

(a) Rockets and warhead sections are in their storage containers located in a centralized battalion exclusion area.

(b) The firing section is located in the battery position area.

(c) When a fire mission is received, the assembly and transport platoon (section) meets the firing section and the rocket(s) are assembled and loaded on the launcher(s).

(d) The firing section moves to a prepared firing position and completes the mission.

(2) State III.

(a) The firing section is located in the battery position area. Rockets are assembled on handling units.

(b) When a fire mission is received, the launcher is loaded and the firing section moves to a prepared firing position and completes the mission.

(3) State II.

(a) The firing section, with a missile on the launcher, is located in a hide area adjacent

to a prepared firing position and is committed to fire on a prearranged target on call.

(b) All possible measures to prepare the equipment prior to occupation of the firing position have been accomplished.

(c) When a fire mission is received, the firing section occupies the firing position and completes the mission.

(4) State I (High Readiness).

(a) The firing section is in a prepared firing position and is committed to fire on a prearranged target on call.

(b) The equipment has been fully checked out and firing procedures completed so that the section is prepared to receive the firing command.

(c) The firing section can remain in this status until completion of the mission or until the tactical situation dictates moving.

(d) Upon receipt of the order to fire, the firing section will apply final low-level wind corrections and fire.

24. Liaison

a. The battalion with a mission of general support has no inherent responsibility for establishing liaison; however, the mission may be modified to include establishing liaison with the next higher artillery headquarters. If the battalion has a general support-reinforcing tactical mission, liaison is established with the headquarters of the reinforced artillery unit. When liaison must be established with a reinforced artillery unit in addition to the next higher headquarters, additional personnel and equipment must be provided from the battalion resources. For duties of the liaison officer, see paragraph 12c and 21b.

b. The Honest John battalion commander maintains command liaison with the next higher artillery headquarters and with the reinforced artillery unit. He will make recommendations to the next higher artillery headquarters concerning possible position areas from which the battalion can support the operation.

CHAPTER 5

RECONNAISSANCE, SELECTION, AND OCCUPATION OF POSITION (RSOP)

25. General

a. The general location of position areas is indicated by higher headquarters. The Honest John battalion commander reconnoiters for subordinate elements, choosing specific positions and access routes for movements, communication, and survey control. Wide separation of selected battery positions may be necessary to insure adequate target coverage and to achieve sufficient dispersion of units.

b. The normal method of securing information on routes and position areas is a map reconnaissance verified by a ground reconnaissance. Aerial reconnaissance is always desirable, and, in the absence of maps or aerial photographs, it is a necessity. Since the battalion has no organic aviation, Army aircraft for this purpose are obtained through higher artillery headquarters. Without aerial reconnaissance, the battalion commander of the Honest John battalion will be handicapped in obtaining timely information on which to base recommendations for new position areas or firing positions.

c. Because the battalion is a high priority target for enemy attack, all possible measures are taken to avoid disclosure of its location during any phase of reconnaissance, selection, or occupation of position. Commanders must be constantly aware of the necessity for concealment. To assist in maintaining secrecy, battalions or elements thereof take maximum advantage of movement during darkness, inclement weather, and times of poor visibility.

d. Battalion commanders should be aggressive in the search for position areas and routes into these areas. They may frequently have to request priority from the force artillery commander for certain areas.

26. Battalion Position Areas

a. The Honest John battalion position area, as

for other field artillery battalions, is that area in which the unit command post, truck park, firing position(s), and administrative and logistical installations are located.

b. The force artillery commander assigns the general battalion position area. When considerable dispersion and movement are necessary to accomplish the mission, the battalion commander may be required to request additional areas from the force artillery commander for additional firing positions. The battalion commander is responsible for making a continuous study of the situation in order to make recommendations on battalion position areas and routes (FM 6-20-2) to the force artillery commander.

c. The battalion commander deploys the elements of his battalion within the assigned position area in a manner that will best accomplish his mission.

27. Deployment of Subordinate Elements

The Honest John battalion commander must be familiar with the four methods of positioning missile artillery units outlined in FM 6-20-2 and be prepared to exploit the advantages of each method as appropriate. The preferred deployment is based on method number 4. Enemy capabilities and policies of higher headquarters will dictate the minimum and maximum distances between elements of the Honest John battalion.

28. Position Areas for Subordinate Elements

The battalion commander selects general areas for his subordinate elements based on his mission, the area he has been assigned, and the considerations outlined in FM 6-20-2. Considerations for position areas in counterinsurgency operations are covered in FM 31-16 and FM 31-22. He normally assigns the duties of

detailed reconnaissance and selection of positions to his staff and battery commanders. In assigning an area to a subordinate unit, he must consider the following points:

a. Enemy Capability for Attacking the Position. In many cases, the commander will have to weigh the capabilities of the enemy for ground attack and attack by counterbattery and air-delivered means. After weighing these capabilities, he must determine the appropriate amount of dispersion required to accomplish his mission.

b. Type of Terrain That Is Being Occupied. Flat terrain with little cover may require that the unit deploy over a large area, or the terrain may be so rugged that the unit is forced to close in to be capable of supporting fires. Rugged terrain may offer some measure of protection against counterbattery attacks; however, the limitations imposed on the quadrant elevation must be considered.

c. Amount of Available Natural Camouflage. Maximum use must be made of existing natural camouflage. This may influence the commander in his choice of area for a particular subordinate element.

d. Mission and Area To Be Covered by Fire. Although the firing elements are not designed to operate independently for extended operations, a mission requiring wide fire coverage could force the commander to select positions and methods of deployment which widely disperse the firing elements.

e. Survey Control. The time required to provide the necessary survey control should always be a consideration. Other considerations being equal, the firing points should be located as close to available survey control as possible to allow timely completion of survey.

29. Headquarters and Service Areas

The headquarters and headquarters battery commander, divisional battalion, and headquarters and service battery commander, nondivisional battalion, select the locations of the various battery installations within the limits of the area assigned by the battalion commander. Close coordination is necessary with the battalion S3 and S4. In every situation, the positions of subordinate elements are selected so that the opera-

tional and support elements can best fulfill their assigned functions. Local defense requirements are an essential consideration. The discussions in FM 6-20-2 and FM 6-140 on reconnaissance, selection, and occupation of position by a headquarters battery are generally applicable.

30. Selection of Firing Positions

The field artillery battery commander is responsible for selecting firing positions within the area assigned by the battalion commander. Since a number of widely separated positions are required, the battery commander normally decentralizes the detailed reconnaissance and selection of firing positions to the firing platoon (section) commanders. The battery commander must insure that—

a. The locations selected are consistent with the commander's plan of deployment and are defensible.

b. Timely survey control can be extended to the exact locations selected for the launchers.

31. Firing Position

The firing position of the nondivisional unit normally contains a launcher, a 2½-ton truck, a ¾-ton truck and trailer with a mounted windset (or a ¼-ton truck with a portable windset), and section personnel and equipment. The divisional unit does not have the ¾-ton truck. A ¼-ton truck with an FM radio is required for command and control. A firing position is normally used only once and then vacated; therefore, many firing positions should be selected. In selecting a firing position, the following items should be considered:

a. The position must have an accessible route for a launcher transporting an assembled rocket.

b. The rear of the launcher position should be clear of excess dry brush, tall grass, and other materials which may ignite when the rocket is fired.

c. Cover and concealment should be available.

d. The slope of the terrain in the firing position cannot exceed the tolerances specified for the launcher. Tolerances are as follows:

(1) M289—10° longitudinally and 3° laterally.

(2) M386 and M33—10° longitudinally and 10° laterally.

32. Route Reconnaissance

The battalion commander may use Army aviation, if available, for route reconnaissance. In some situations, aerial reconnaissance may be a necessity, especially in fast-moving situations and in rugged terrain. Counterinsurg-

ency operations security requirements will often limit route reconnaissance to aerial reconnaissance. The discussion of route reconnaissance in FM 5-36 and FM 6-20-2 apply generally to the Honest John Battalion.

33. Displacement (Rescinded)

CHAPTER 6

ORGANIZATION OF POSITION

34. General

a. This chapter covers the composition and arrangement of elements within the unit position areas. In general, this discussion and the type position area shown in figure 4 apply to both battalion- and battery-size units. However, the method of deployment shown in figure 4 should not be considered the only method. The size of the position area will depend on available terrain. In all cases, maximum dispersion consistent with security requirements must be maintained. Other methods of deployment of the Honest John battalion are shown in FM 6-20-2. For a discussion of security, communications, and survey, see chapters 7, 8, and 9, respectively. For a discussion of these topics as they are influenced by counterinsurgency operations, see FM 31-16 and FM 31-22.

b. The organization of a position includes those operations necessary for delivery of fire. Operations required to deliver fire as soon as possible after occupying the position have first priority. These operations include checking out the rocket and warhead section, assembling the rocket, loading the rocket on the launcher, and laying the launcher.

c. Battalions prepare new positions prior to occupation as completely as time allows. All possible measures are taken to avoid disclosing the position to the enemy. All personnel must be continuously aware of the necessity for concealing the positions from both air and ground observation. When possible, newly selected position areas are prepared during darkness or periods of poor visibility to assist in maintaining secrecy. This preparation includes the erection of the necessary camouflage nets and the digging of personnel and material shelters.

35. Battalion Command Post Area

The battalion command post area normally will be a part of the headquarters and head-

quarters battery area, divisional battalion, or headquarters, headquarters and service battery area, nondivisional battalion, and will usually include the battalion fire direction center. The discussion in FM 6-20-2 and FM 6-140 on organization of a battalion command post area is generally applicable to this battalion.

36. Headquarters and Service Areas

a. The discussion in FM 6-140 on organization of the headquarters area and the service battery area is generally applicable to the headquarters and service area of an Honest John battalion and to the headquarters and service areas of field artillery batteries. The ammunition support requirement for either type of unit is a major consideration in assuring that adequate local security is provided.

b. The location of the assembly and transport area should be convenient to the firing elements. It should include an area for vehicle parking, an area for rocket assembly and checkout, a loading area, and an area for rocket storage. The location of the storage area within the assembly and transport area is governed primarily by security considerations.

c. When assembly and transport support is required for firing platoons (sections) operating at remote distances from each other, separate assembly and transport areas are established for each platoon (section).

37. Firing Elements

★a. *General.* The location of the launcher, together with the centerline of the sector of fire and the blast danger area (fig. 5), determines the general arrangement of the firing position. The exact location of each element varies with the terrain and natural concealment available. The danger area to the rear of the launcher (fig. 5) may be reduced to 200 meters or less by the battalion commander

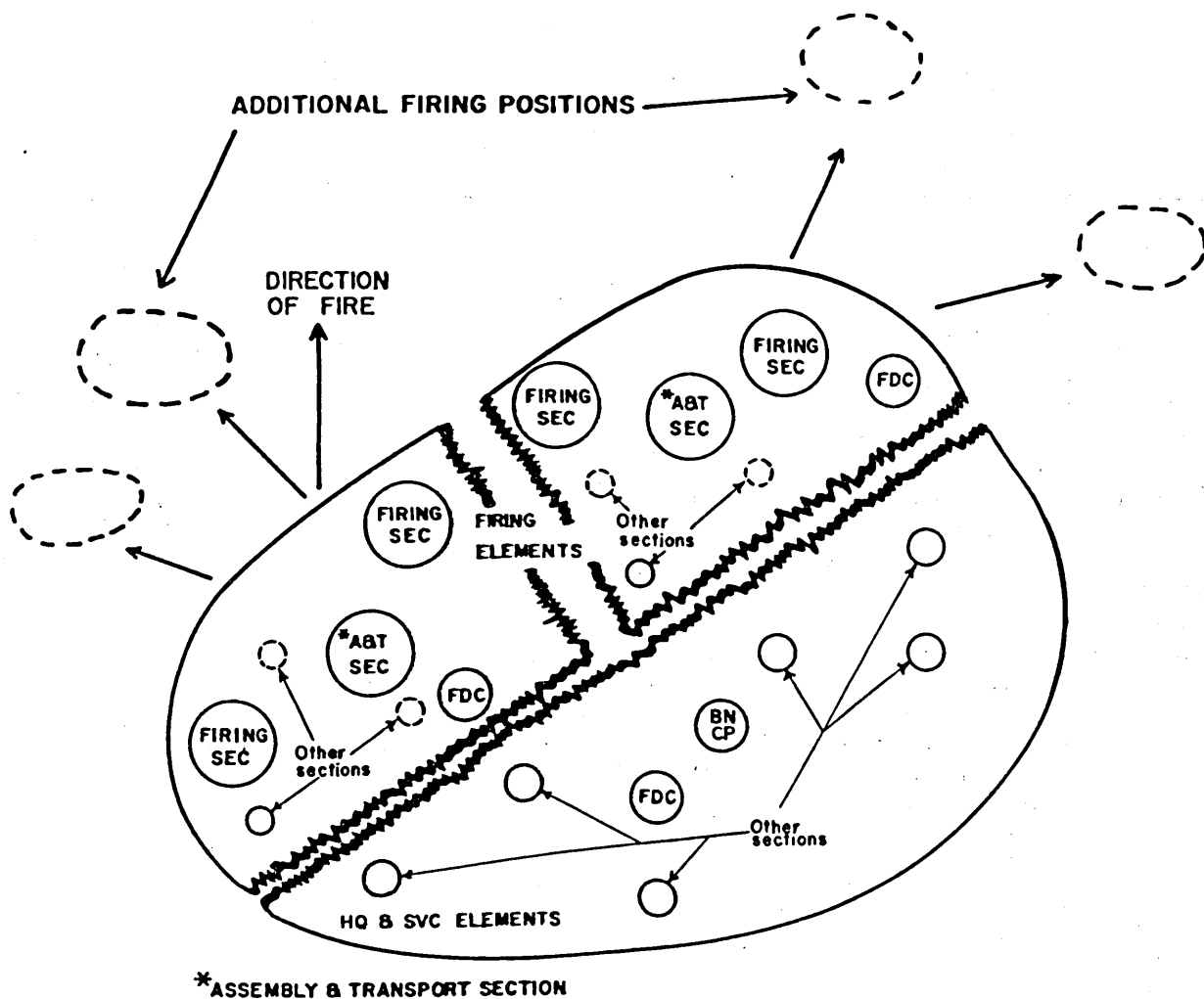


Figure 4. Type battalion position area (divisional).

when terrain conditions permit. Under no condition may personnel be permitted within the danger area at the time of firing. See AR 385-62, TM 9-1100-200-12, and TM 9-1340-202-12 for additional safety requirements.

b. Firing Section Position.

(1) A firing section position (fig. 5) contains the fire control point (FCP), a launcher with a rocket, a wind measuring set, test equipment, and necessary communications equipment. A dispersal and loading area may be provided as required. Items subject to blast damage must be outside the danger area to the rear of the launcher.

★(2) The firing section positions the launcher so that the sight mount is over the survey stake. The fire control point (FCP) is prepared from 90 to 125 meters to either flank of the launcher. Normally, the FCP is located to the left of the launcher because the sight and electrical panel assembly are on the left side of the launcher. An igniter storage and testing pit for the MGR-1A rocket is dug when required. The wind measuring set is located approximately 50 meters forward of the launcher and at least 25 meters to either side of the line of fire—preferably the left side—to facilitate sighting and laying operations.

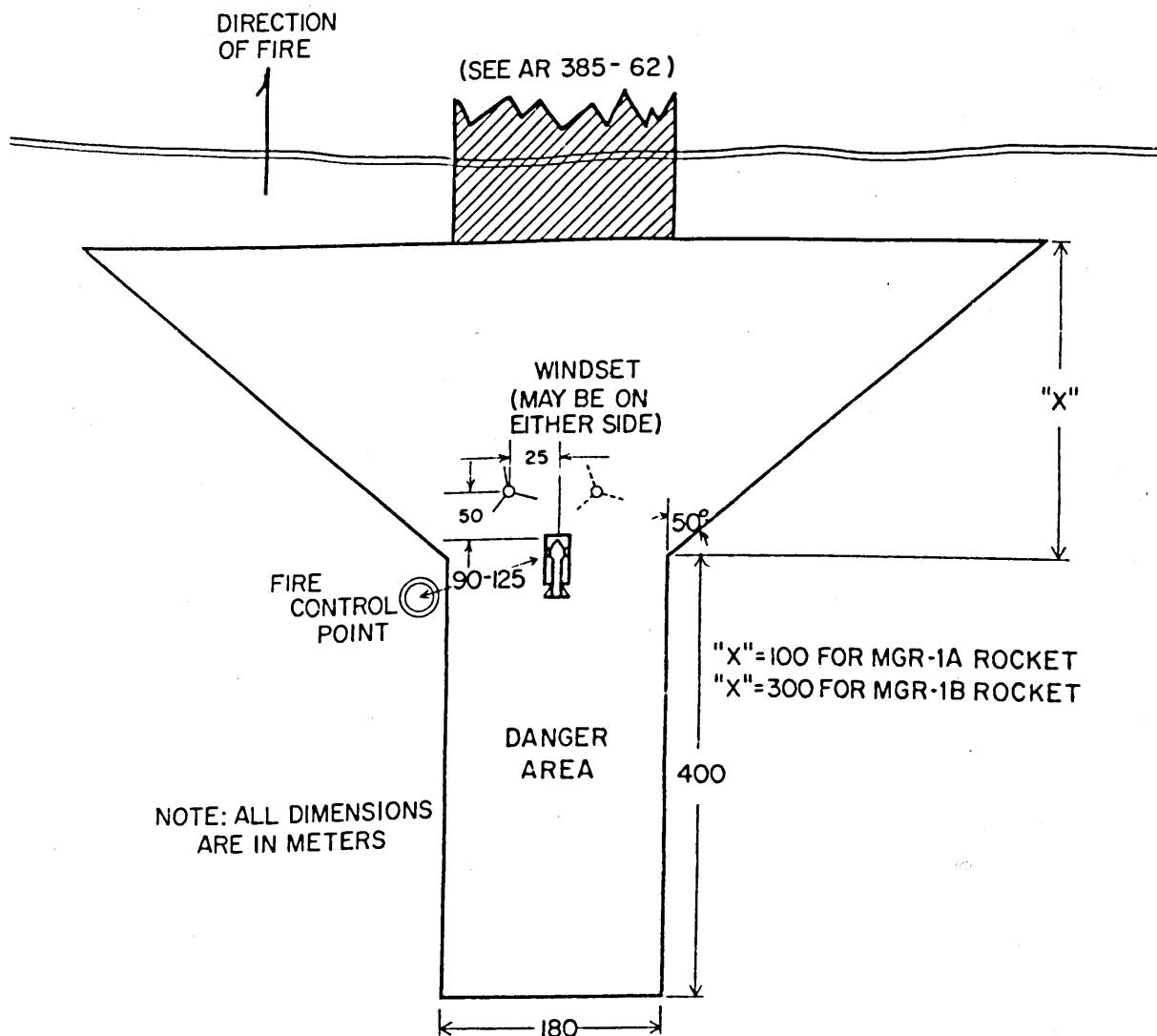


Figure 5. Type firing section position.

★CHAPTER 7 SECURITY (STANAG'S 2103, 2104, 2113)

Section I. GENERAL

38. Personnel Security

Personnel security requirements are more stringent in an Honest John battalion than in units employing less sophisticated systems because of the amount of classified material handled and the nature of that material. Proper security clearances must be obtained for all personnel requiring access to classified areas or material. AR 611-15 lists the criteria for selection and retention of personnel to be granted access to classified areas or material. Continuous scrutiny of these personnel is required to insure a safe environment for nuclear material.

38. Equipment and Document Security

a. General. Equipment and document security includes proper storing and handling of classified equipment and the safeguarding of all associated classified documents.

b. Document Security. The Honest John unit must maintain a large file of classified documents because of the requirement for operational and training material on nuclear weapons. Commanders must actively supervise the handling, storing, and safeguarding of classified documents to insure that all provisions of AR 380-5 and AR 380-150 are observed.

c. Equipment Security.

(1) Peacetime requirements demand that stringent safety and security programs be established in a nuclear delivery unit. These include requirements for security sections to safeguard the warheads, for controlled movement of warheads, and for the establishment of a

specific plan for nuclear accident and incident control.

(2) The battalion must protect the nuclear ammunition from enemy action and prevent access to classified material by unauthorized personnel at all times. Physical security standards for nuclear weapons are prescribed in AR 190-60. During field operations, the commander will implement the provisions of AR 190-60 to the maximum extent possible. For guidance in physical security planning and operations, refer to FM 19-30.

(3) Nuclear components must be prevented from falling into enemy hands. See FM 6-20-1, for guidance on denial of nuclear weapons to the enemy.

(4) Commanders will maintain a standing operating procedure for the destruction of ammunition. Items will be destroyed only as a last resort or when directed by higher authority. Destruction will be carried out only on the order of the senior U.S. military person who is present in the unit. For details on the destruction of nuclear ammunition, see FM 5-25 and TM 9-1100-200-12; for details on the disposal of chemical warheads, see TB Ord 7096 and TM 3-250.

(5) Equipment other than ammunition will be safeguarded in accordance with current security regulations. If, during combat, evacuation is not possible, destruction should be accomplished in accordance with STANAG 2113 as prescribed in the appropriate technical manual.

Section II. POSITION AREA DEFENSE

40. General

Organization of the Honest John battalion position area for local security consists of establishing an adequate warning system and making provisions for active and passive security measures. The mission of the Honest John battalion makes the battalion a high-priority target for enemy attack. The most effective way for the enemy to counteract the effectiveness of the battalion is to prevent it from firing a missile. The enemy can be expected to use all his available intelligence agencies to locate the battalion positions. The battalion will be most susceptible to attack by airmobile and guerrilla forces and by infiltration. In addition, the normal threat of air attack, conventional ground attack, and counterbattery fire must be considered. Therefore, all active and passive security measures must be implemented (FM 6-20-2 and FM 6-140).

40.1. Active Defense

a. Defense Against Ground Attack. The establishment of a perimeter defense, to include guard posts, listening posts, and obstacles, is one of the active measures used to prevent penetration of the position by the enemy. A detailed discussion of active defense measures is provided in FM 6-140.

b. Defense Against Enemy Air Attack. The Honest John battalion in the combat area must plan to counter a low altitude air attack by using the large volume of fire which can be provided by organic weapons. Nonair defense weapons in an air defense role are best employed by the use of established procedures outlined in a unit SOP which should include, but not be limited to, the following items:

(1) *Rules for engagement.* In the absence of orders to the contrary, individual weapon operators will engage attacking aircraft; engagement of all other hostile aircraft will be on orders issued through the unit chain of command and will be supervised by unit leaders. The primary mission of the unit will not be jeopardized by these actions.

(2) *Engagement of low-speed aircraft.*

In accordance with the rules of engagement, low-speed enemy aircraft will be engaged with aimed fire, employing the maximum rate of fire of the weapons. Aerial gunnery techniques generally applicable to all small arms and automatic weapons are presented in FM 23-65.

(3) *Engagement of high-speed aircraft.*

In accordance with the rules of engagement, high-speed enemy aircraft will be engaged with maximum fire aimed well in front of the aircraft, and above its flightpath, in order to force it to fly through a pattern of fire. This technique is not unaimed "barrage" fire but requires a degree of aimed fire. It does not, however, call for careful estimation of aircraft speed and required lead.

(4) *Massed fire.* Units should employ a massed fire technique when using small arms and automatic weapons in an air defense role.

40.2. Passive Security Measures

a. General. Existing doctrine for the passive defense of field artillery positions will be fully implemented (FM 6-20-2 and FM 6-140). Passive measures include camouflage and concealment, field fortifications (cover) for personnel and material, obstacles, and communication security.

b. Concealment.

(1) In most positions, concealment is obtained by the use of camouflage nets supplemented by available natural concealment. Field Manuals 5-20 through 5-23 present the general principles of camouflage of individuals, weapon positions, vehicles, command posts, supply installations, and bivouacs.

(2) Consideration must be given to the necessity to prevent fires and replace natural camouflage damaged as a result of firing.

(3) During marches, vehicles and other equipment peculiar to this battalion should be camouflaged to the maximum extent possible. Camouflage nets, canvas covers, standard vehicle bows with tarpaulins, and other field expedients should be used to camouflage the equipment.

c. Cover. Requirements for concealment usually conflict with the requirements for field fortifications to protect material against enemy fires. Digging materiel shelters without violating camouflage discipline is extremely difficult. Battalion and battery commanders must weigh carefully the relative advantages and disadvantages concealment versus those of cover for materiel. During the occupancy of a position, the battalion should dig in materiel as time permits. This operation should follow a plan which insures that camouflage discipline is not violated at any time. Digging should be

done during darkness or under camouflage. The plan must provide for the disposal of spoil and elimination of tracks. The possibility of both aerial observation and photography by the enemy must be considered.

d. Communications Security. FM 32-5 provides general guidance in all phases of communications security. Special attention must be given to operating patterns or procedures which may uniquely identify the unit. Communications security survey and advisory assistance is available from specialized units attached to the field army, corps, and division.

Section III. CHEMICAL, BIOLOGICAL, AND RADIOLOGICAL DEFENSE

40.3. General

The Honest John battalion must be capable of performing its mission while under a chemical, biological, or nuclear attack. See FM 21-40 for guidance relative to the protective measures against the effects of chemical or biological agents and nuclear weapons. This manual also establishes and describes the standards of proficiency for the protective measures employed by the individual to survive chemical, biological, or nuclear attack. Defensive measures normally taken by an artillery unit pro-

vide some degree of protection against a CBR attack.

40.4 Reporting Systems

a. FM 21-40 includes provisions of STANAG 2103 and provides a format for reporting enemy nuclear, chemical, or biological attacks.

b. FM 6-20-1 includes provisions of STANAG 2104 and outlines the procedures and responsibilities for reporting friendly nuclear strikes.

CHAPTER 8

COMMUNICATIONS

41. General

a. All available means of communication must be utilized. No one means is considered primary or is relied on exclusively. The Honest John battalion employs wire, radio (AM and FM), and messenger communications. Consideration should be given to the use of Area Signal Centers of supported division or corps whenever possible for communications with higher

headquarters (FM 11-50). Sound and visual means may also be employed when appropriate. Adequacy, reliability, and flexibility are prime considerations in the establishment and maintenance of all communications systems. These same considerations apply within this battalion. For a general discussion of communication techniques, see FM 24-1, FM 24-18, and FM 24-20. A discussion of field artillery

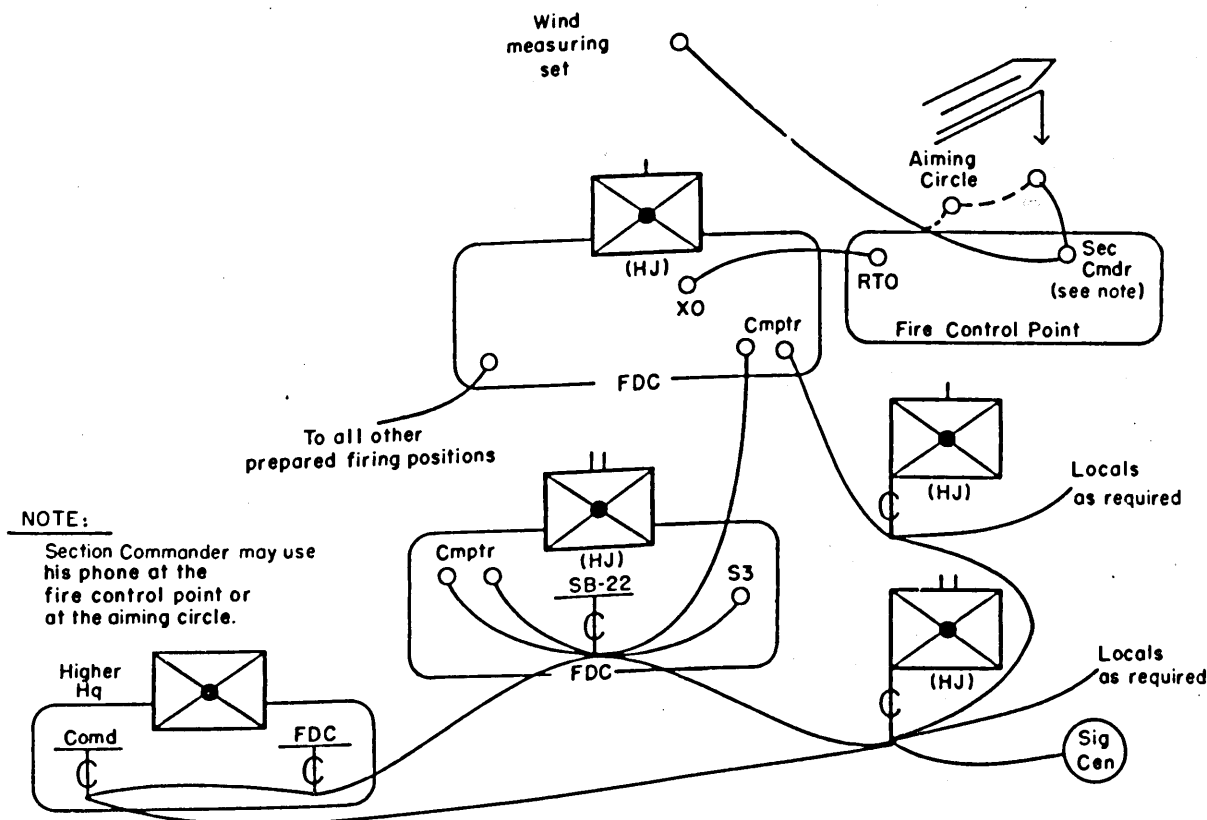
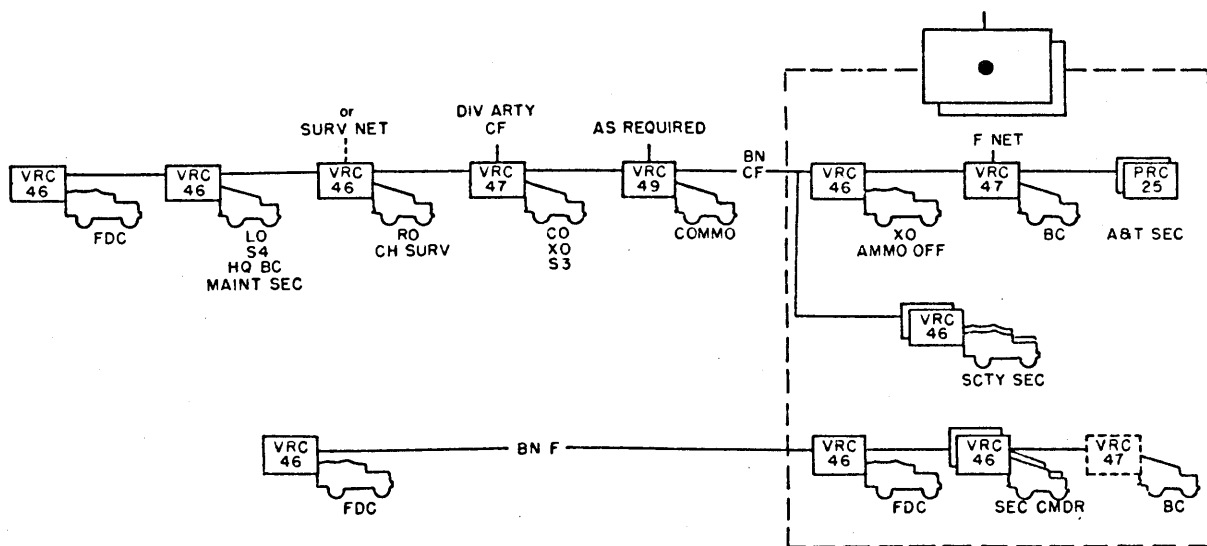


Figure 6. Type wire system.



*Figure 7. Internal nets, divisional battalion.

communication procedures and techniques is contained in FM 6-10.

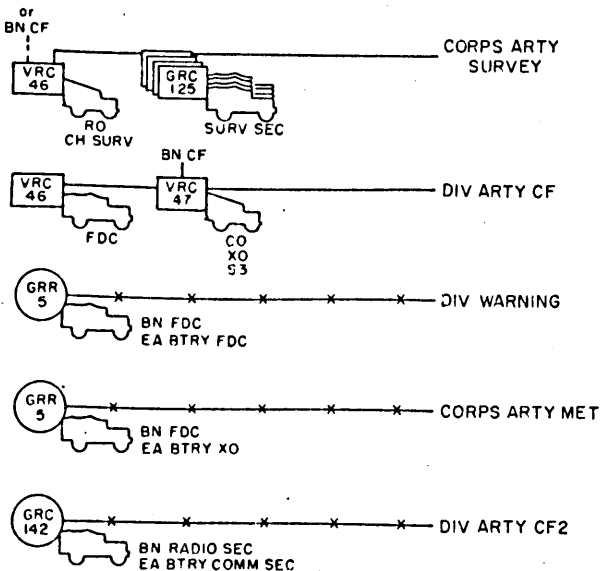
b. The communication platoon (section) is responsible for installing all wire circuits within the unit, except those established within sections. Messenger service is provided by the communications platoon. Each Honest John unit has an organic radio teletypewriter capability.

c. Due to the vulnerability of wire and messenger services to insurgency activity, radio systems will be the principal means of communications in counterinsurgency operations. Wire systems and messenger services normally will be restricted to internal use within the unit position area.

42. Wire System

★The extent of the wire system installed depends on the deployment of the battalion, the length of time the battalion is in position and the desires of the commander. When time permits, the complete system is installed prior to occupation of the position to assist in reducing the time required for organization of position. Full use is made of existing wire circuits of the headquarters to which the battalion is attached. The battalion wire system must provide for

command and fire control. Priority circuits are those necessary for fire control. Wire and radio nets parallel each other and offer alternate means of communication. A type wire system for an Honest John battalion, divisional or nondivisional, can be determined by expanding the basic net shown in figure 6 to reflect the appropriate number of batteries and firing sections.



*Figure 8. External nets, divisional battalion.

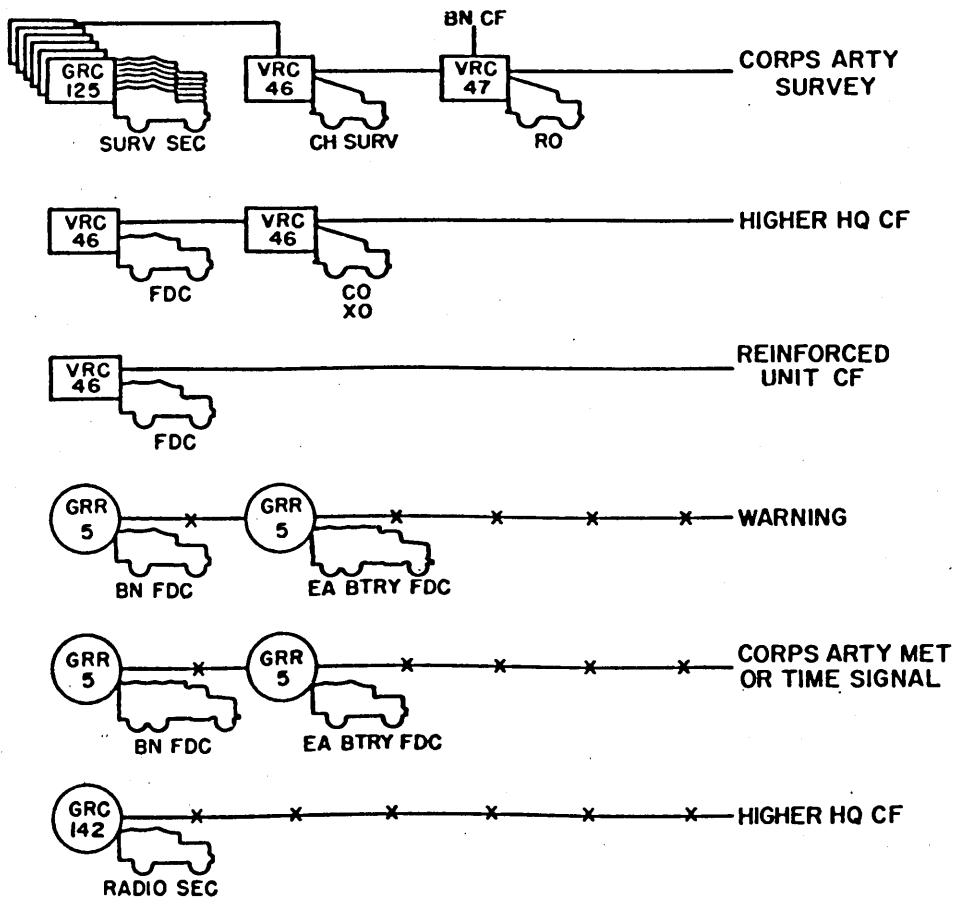


Figure 10. External nets, nondivisional battalion.

CHAPTER 9

SURVEY

44. General

The survey mission of the Honest John battalion is essentially the same as that of any heavy field artillery unit employing cannon-type weapons. The chief difference between the survey mission of these units is that the Honest John battalion requires survey control for each launcher and for the additional firing positions.

45. Organization

a. The battalion TOE provides sufficient personnel and equipment to form two survey parties, each of which is capable of attaining the prescribed survey accuracy of 1:1,000.

b. The responsibilities of the battalion survey officer are discussed in FM 6-2 and FM 6-20-2.

46. Survey Control

a. The battalion normally initiates survey from survey control furnished by a higher echelon of survey. Survey control consists of the grid coordinates and altitude of the battalion survey control point(s) (SCP) within 1,500 to 2,000 meters of the firing position (and alternate positions) and the grid azimuth from the SCP to an azimuth mark. Survey control furnished must have an accuracy of at least 1:3,000 and 0.3 mils for direction (FM 6-2).

b. The field artillery target acquisition battalion furnishes survey control for the nondivisional Honest John battalions located in corps areas. When a battalion is attached to a division artillery, control is furnished by the division artillery to which the attachment is made.

c. The survey officer should expedite the establishment of survey control for all primary and alternate firing positions assigned to the battalion. Coordination with the division artillery

or corps survey information center (SIC) must be continuous.

d. *In an emergency*, the Honest John may be fired without prescribed survey control if accomplishment of a fire mission does not allow time for survey of the firing position. However, the accuracy of the rocket will be degraded to some extent, depending on the accuracy of the azimuth determination and map-inspected coordinates of the firing position. If a rocket is to be fired without survey control, *the headquarters that initiated the fire mission must be notified of this fact* because of target analysis and troop safety considerations. That headquarters will make the decision whether to fire and accept the accuracy risk or delay the mission until survey control is provided.

47. Survey Requirements

a. The battalion survey section performs a closed survey from the SCP using procedures which insure an accuracy of 1:1,000. The section determines and reports the following information to the fire direction center:

- (1) The grid coordinates and altitude of the location of each firing point.
- (2) The grid azimuth of an orienting line in each firing position.

b. The survey section and the firing element must coordinate the physical location of markers (stakes) for the launchers, orienting stations, and ends of the orienting lines.

48. Survey Methods, Procedures, and Techniques

The methods of survey and the survey procedures and techniques discussed in FM 6-2, Artillery Survey, are utilized for survey operations performed by the Honest John battalion.

CHAPTER 10

ADMINISTRATION AND LOGISTICS

Section I. GENERAL

49. General

The Honest John battalion is both a tactical and an administrative organization. Normally, the batteries rely upon the battalion for administrative and logistical support. Normal administrative functions for the batteries are covered in FM 6-140. This chapter covers additional administrative supply, and maintenance procedures which are either peculiar to or must be emphasized for the Honest John battalion.

50. Responsibilities

The responsibilities for administration and logistics as defined in FM 6-140 apply to the Honest John battalion. The battalion commander establishes unit policies that are compatible with the operational and technical requirements established by higher headquarters.

51. Property Accountability

a. The battalion requisitions, receives, and accounts for supplies as prescribed in AR 735-5 and AR 735-35. The battalion supply section maintains one unit property book for the entire battalion. The S4 or properly designated property book officer has responsibility and accountability for property issued to the battalion. He acknowledges responsibility by accomplishing the certificates in the property books. Property book officers make a joint inspection of battalion property or appropriate hand receipts upon change of assignment.

b. The battalion supply section obtains hand receipts (AR 735-35) from individuals to whom property is issued.

c. All commanders have command responsibility for property accountability.

Section II. AMMUNITION HANDLING PROCEDURES

52. General

The ammunition handling procedures prescribed for Honest John rockets are generally the same as those prescribed for other field artillery ammunition. A round of Honest John ammunition consists of the warhead section, rocket motor, and fins. For general information on drawing and transporting field artillery ammunition, see FM 6-20-2, FM 6-140, and FM 9-6. For information on movement procedures for nuclear weapons, see AR 55-203; for information on nuclear accident contamination control, see FM 3-15. For information on movement of chemical weapons, see TM 55-602.

53. Functions

The Honest John battalion has the following

functions pertaining to ammunition:

a. Drawing ammunition from the special ammunition supply point (SASP) and transporting to the battalion area.

b. Transporting and storing a basic load of conventional ammunition plus the special ammunition load (SAL) (para 55b).

c. Providing security for ammunition during transport and during storage in the battalion area.

d. Performing organizational maintenance on ammunition and associated handling and test equipment.

e. Drawing and storing spare parts and accessories authorized, for the maintenance indicated in *d* above.

f. Performing prefire procedures.

g. Firing ammunition as directed by higher artillery headquarters.

h. Performing checks and rendering reports on RESTRICTED DATA material as required by pertinent regulations.

54. Ammunition Service

a. All Honest John ammunition is stored and issued by the special ammunition supply point (SASP) operated by the storage and issue platoon of the ordnance special ammunition direct support company. The SASP normally are located in the corps area so that Honest John units can draw complete rounds of ammunition at one supply point. The force commander specifies the quantity and type of ammunition to be stored by these SASP, based on his operational plans.

★b. The special ammunition general support units prepare and store nuclear and chemical warhead sections for issue to the SASP which, in turn, issue the sections to the Honest John units. For certain tactical situations, including emergencies, complete rounds may be issued to units direct from special ammunition general support units located in the rear area.

c. The technical support section of the spe-

cial ammunition direct support company is capable of rendering limited technical assistance to the unit.

55. Drawing Ammunition

a. Drawing ammunition from a special ammunition supply point (SASP) is discussed in FM 101-31-1. The procedures used by the Honest John battalion to draw ammunition from a SASP will be prescribed by the force SOP and theater directives. Battalion ammunition personnel should complete all arrangements for pickup in advance. Battalion personnel must comply with security regulations established for ammunition and ammunition supply points. Physical security of the ammunition will be assumed by the unit representative upon acknowledging receipt of the items issued.

b. The special ammunition load will specify the number of authorized nuclear warhead sections by type; and the number may vary, depending on the operational plan, availability of weapons, anticipated employment, or other tactical considerations. Authority from the force commander to replenish the special ammunition load may be withheld or given with a nuclear weapon, in anticipation of its use,

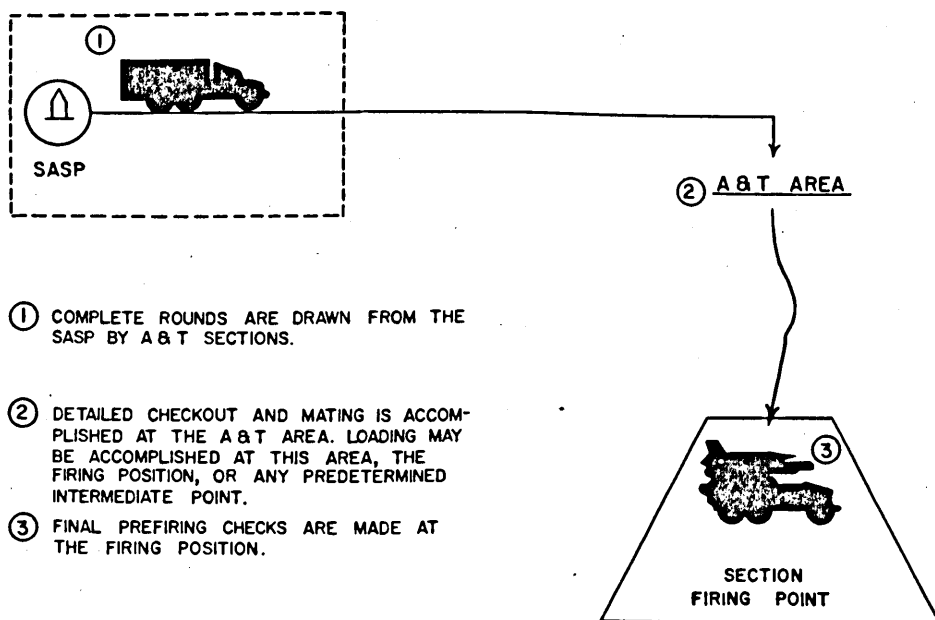


Figure 11. Supply flow of special ammunition.

or after expenditure of the weapon. See FM 9-6 and FM 101-31-1 for details pertaining to the distribution of nuclear ammunition. A typical supply flow of special ammunition is shown in figure 11.

c. Rocket shipping crates are expendable. However, all shipping crates and cases should be repackaged and returned to the SASP.

56. Preparation of Ammunition

The assembly and transport section prepares rockets for immediate use as directed. Preparation of a rocket for immediate use generally includes the assembly of the warhead section to the motor body and checkout of the rocket and warhead section. Artillery personnel per-

form no operations which require removal of the skins from the warhead section. For detailed information on how to prepare an Honest John rocket warhead section for immediate use, see TM 9-1100-200-12 and TM 9-1340-202-12.

57. Storage of Ammunition

a. When directed, during maximum readiness under nuclear or threat of nuclear conditions, each battalion will have at least one rocket carrying a nuclear warhead section mounted on a launcher.

★b. For further information on storage requirements, see TM 9-1100-200-12 and TM 9-1340-202-12, and TM 3-250.

Section III. MAINTENANCE

58. General

a. A concentrated maintenance effort is required to keep the large amount of complex material in the battalion operational. Command supervision of maintenance, a rigorous preventive maintenance program, and prescribed organizational maintenance principles must be aggressively applied in this battalion (FM 6-20-2 and FM 6-140).

b. The categories of maintenance presently established are applicable to this battalion. The procedures used for repair evacuation and replacement of material are the same as those used in any other field artillery unit. The presence of classified material poses certain problems and requires compliance with regulations not common to other artillery units.

59. Maintenance Service

★ The special ammunition general support companies provide limited maintenance on nuclear warhead sections and special weapons test and handling equipment. Defective items are evacuated through special ammunition direct support companies. Direct exchange is employed when possible. Details concerning special weapons maintenance support are contained in FM 9-6.

60. Organizational Maintenance

a. Organizational maintenance within Honest John battalions is similar to that for cannon field artillery battalions, except that per-

sonnel of the assembly and transport section perform organizational maintenance on the complete round and associated test equipment.

★b. The criteria for authorized maintenance operations on rockets and system-peculiar equipment are contained in maintenance allocation charts (MAC). These charts are provided as appendices to appropriate technical manuals and indicate the lowest category authorized to perform each maintenance operation. Each MAC also indicates the special tools required and contains remarks which further describe the maintenance operations. Personnel in the firing section of the field artillery battery perform organizational maintenance as required on the launcher, rocket, wind measuring set, and associated test and firing equipment.

c. The battalion radio mechanics, under the supervision of the battalion communication chief, perform organizational maintenance on all communication equipment in the battalion.

d. Technical manuals which provide instructions for operational and organizational maintenance of the Honest John system include an appendix which lists the basic issue items required for unit stockage, to include the quantity of each item authorized. This appendix also lists the appropriate forms for the equipment log book. See TM 38-750 for detailed information on the Army equipment records system.

CHAPTER 11

AIR TRANSPORTABILITY

61. General

a. Each Honest John battalion is phase II air transportable (AR 705-35) when equipped with the M386 launcher. Phase I air transportability can be achieved by substituting 2½-ton trucks for 5-ton trucks and M405 trailers. Tripods must be used for rocket assembly and loading since the 5-ton wrecker cannot be employed in Phase I of an airborne operation. The helicopter-transportable launcher M33 is a suitable substitute for the M289 or M386 launcher in airborne and airmobile operations. When this substitution is made, helicopters or 2½-ton trucks may be used for displacements.

b. Honest John helicopter-transportable equipment consists of M33 launcher with associated rocket handling and supporting equipment including lightweight vehicles.

62. Missions for Helicopter-Transported Operations

Missions for Honest John units utilizing helicopters as the method of transport will normally be specialized missions which are dictated by a tactical situation which precludes employment of the self-propelled equipment. Some of the situations requiring this type of operation are as follows:

a. Occupation and delivery of fire from positions within friendly lines when distances are great, time is short, or the terrain or enemy prohibits ground movement.

b. Support of amphibious, arctic, airborne, airmobile, or jungle operations.

c. Support of allied forces separately or as a part of a missile command.

63. Organizational Concept

The organization for a helicopter-transported operation is not a fixed organization but must contain the minimum necessary personnel and

equipment to load and fire a rocket, a reconnaissance party, and a survey party (unless survey is accomplished by the supported unit). Communication must be maintained between the firing position and the FDC or with the supported unit. Depending on the distance involved in the movement to the firing position, it may be necessary to establish relays, using helicopter or vehicle radios, to maintain FM communications.

64. Operational Concept

a. An operation utilizing minimum personnel and equipment requires a minimum of two medium transport helicopters (CH-47) and one utility/tactical transport helicopter (UH-1D). A plan for employment includes use of the helicopters in two phases (b and c below).

b. In the initial phase, the helicopters transport the following loads to the firing position and then return empty to the battalion or battery area:

- (1) One utility/tactical transport helicopter (UH-1D) carries the reconnaissance party consisting of the battery and/or platoon commanders and enlisted assistants. Vehicles and radio for the party is carried in the medium transport helicopter.
- (2) One medium transport helicopter carries—
 - (a) A six-man survey party.
 - (b) Survey equipment.
 - (c) Two ¼-ton trucks.

c. In the firing phase, the following loads may be transported to the firing position:

- (1) One medium transport helicopter carries—
 - (a) One M33 launcher.
 - (b) Baskets containing auxiliary equipment (windset, generator, tripods, tools, etc.)

- (2) One medium transport helicopter carries—
 - (a) One completely assembled Honest John rocket.
 - (b) Two firing section personnel.
- (3) One utility/tactical transport helicopter carries nine firing section personnel.

d. If survey is performed by the supported unit or has been previously accomplished, the initial phase may be omitted. In this case, the platoon commander and enlisted assistants plus

their vehicle and radio can be carried in the two medium transport helicopters which are transporting the Honest John rocket and launcher. When survey is required, the survey personnel may be returned to the battalion or battery area on completion of survey, or they may be retained at the firing position to assist in local security. Survey data must be furnished to the FDC as soon as the data is available.

e. The operation discussed in *a* through *d* above may be expanded when conditions dictate employment of more than one launcher or more than one rocket.

CHAPTER 12

TRAINING

65. General

a. This chapter is a guide to assist the battalion commander in the effective training of his unit.

b. Included herein is general information on training objectives, conduct of training, and standards to be attained.

c. For appropriate training publications, see appendix I.

66. Objective

The objective of the training prescribed herein is to provide personnel of the battalion with a thorough knowledge of the tactics and techniques essential to the efficient operation of the Honest John battalion in all levels of combat.

67. Conduct of Training

a. Unit commanders conduct training in accordance with principles discussed in FM 21-5 and appropriate Army training programs. The application of the prior instruction to current training must be emphasized throughout training. Training under the Army training program culminates in an Army training test.

b. The necessity for developing leadership, initiative, and a sense of responsibility in non-commissioned officers must be kept in mind throughout training. Noncommissioned officers should be utilized as much as possible to train

their own sections. Unit officers should supervise and make frequent inspections to determine the status of training of individuals.

★c. Realistic training is especially important. Simulation of essential operations because of safety, work involved, or complex nature of the material must be avoided. Maximum use should be made of practical field exercises, emphasizing night training under blackout conditions. FM 21-48 provides information and data for planning, conducting, and umpiring CBR play in tactical exercises.

d. The various service schools conduct technical instruction to train key personnel of the battalion to perform their assigned duties. Remaining personnel receive training under the unit training program.

e. The final step in unit training is the annual training test and service practice. See ATT 6-175, FM 6-40-1, and AR 385-62 for purpose, scope, conduct, and safety when conducting an Army training test or service practice.

68. Standards To Be Attained

The qualifications established by AR 611-201 should be used as guides for the standards to be attained by individuals. The Honest John battalion Army training test should be used as a guide for the standards to be attained by the unit.

APPENDIX I

REFERENCES

The following publications contain information applicable to the Honest John unit:

AR 50-3	Personnel Security Standards for Nuclear Capable Organizations and Activities.
AR 55-203	Movement of Nuclear Weapons and Nuclear Components.
AR 190-60	Physical Security Standards for Nuclear Weapons.
AR 220-58	Organization and Training for Chemical, Biological and Radiological Operations.
AR 380-5	Safeguarding Defense Information.
AR 380-150	Security of Restricted Data.
AR 381-130	CI Investigations Supervision and Control.
AR 385-62	Firing Guided Missiles and Heavy Rockets for Training, Target Practice, and Combat.
AR 604-5	Clearance of Personnel for Access to Classified Information and Material.
AR 611-15	Selection and Retention Criteria for Personnel in Nuclear Reactor or Nuclear Weapons Positions.
AR 611-201	Manual of Enlisted Military Occupational Specialties.
AR 735-5	(Property Accountability) General Principles and Policies and Basic Procedures.
AR 735-35	Supply Procedures for TOE and TDA Units or Activities.
ATP 6-302	Field Artillery Rocket Units Honest John and Little John Rocket.
ATT 6-175	Field Artillery Battalion (Battery), Honest John and Little John Rocket.
ATT 32-400	Signal Security Army Type Brigades, Battalions, Other Units and Teams.
(C) FM 3-10B	Employment of Chemical Agents (U).
FM 3-15	Nuclear Accident Contamination Control.
FM 5-20	Camouflage, Basic Principles, and Field Camouflage.
FM 5-25	Explosives and Demolitions.
FM 5-36	Route Reconnaissance and Classification.
FM 6-2	Artillery Survey.
FM 6-10	Field Artillery Communications.

CI, FM 6-61

FM 6-20-1
FM 6-20-2
FM 6-40
FM 6-40-1

(S) FM 6-40-1A

FM 6-140

FM 9-6

FM 11-50

FM 19-30
FM 21-5
FM 21-40
FM 21-48

FM 23-65
FM 24-1
FM 24-18
FM 24-20
FM 30-5
FM 30-17

FM 31-16
FM 31-22
FM 31-23
FM 31-45
(C) FM 32-5
(C) FM 32-20
(C) FM 100-20

TM 3-220

TM 3-250

TM 9-1055-203-15

TM 9-1055-204-12

TM 9-1055-205-10

Field Artillery Tactics.
Field Artillery Techniques.
Field Artillery Cannon Gunnery.
Field Artillery Honest John/Little John Rocket Gunnery.
Field Artillery Honest John/Little John Rocket Gunnery (U).
Field Artillery Cannon Battalions and Batteries.
Ammunition Service in the Theater of Operations.
Signal Battalion, Armored, Mechanized, and Infantry Divisions.
Physical Security.
Military Training Management.
Chemical, Biological, and Nuclear Defense.
Chemical, Biological and Radiological (CBR) and Nuclear Defense Training Exercises.
Browning Machine Gun Caliber .50 HB, M2.
Tactical Communications Doctrine.
Field Radio Techniques.
Field Wire and Field Cable Techniques.
Combat Intelligence.
Counterintelligence, Operations, Intelligence Corps, U.S. Army
Counter guerrilla Operations.
U.S. Army Counterinsurgency Forces.
Stability Operations—U.S. Army Doctrine.
Explosive Ordnance Disposal Service.
Signal Security (SIGSEC) (U).
Electronic Warfare (Ground Based) (U).
Field Service Regulation—Internal Defense and Development (IDAD) (U).
Chemical, Biological and Radiological (CBR) Decontamination.
Storage, Shipment, and Handling of Chemical Agents and Hazardous Chemicals.
Operation and Maintenance: Truck-Mounted 762mm Rocket Heating and Tie Down Unit M78A1.
Operator and Organizational Maintenance Manual: 762mm Rocket Launcher M33 and 762mm Rocket Transport Cart Assembly M465.
Operator's Manual: Truck-Mounted 762mm Rocket Launcher M386.

Note. TM 9-1055-202-series, TM 9-1055-204-series, and TM 9-1055-205-series publication pertain to all operator and maintenance instructions for Honest John launchers.

TM 9-1055-208-12

(S) TM 9-1100-200-12

TM 9-1340-202-12

TM 38-750

TM 55-602

TOE 6-175

TOE 6-525

2. Firing Tables

The firing tables applicable to the Honest John system are listed below. DA Pamphlet 310-3

<i>Number</i>	<i>Launcher</i>	<i>Rocket</i>	<i>Warhead</i>
FTR 762-A-2 -----	M289	MGR-1A	Heavy
FTR 762-B-2 -----	M289	MGR-1A	Light
FTR 762-C-1 -----	M33	MGR-1A	Light
FTR 762-D-1 -----	M33	MGR-1A	Heavy
FTR 762-ADD-D-1 -----	All types	MGR-1B	Light
FTR 762-E-1 -----	M386	MGR-1A	Light
FTR 762-ADD-E-1 -----	All types	MGR-1B	Heavy
FTR 762-F-1 -----	M386	MGR-1A	Heavy
FTR 762-G-1 -----	M386	MGR-1B	Light
FTR 762-H-1 -----	M386	MGR-1B	Heavy
FTR 762-I-1 -----	M33	MGR-1B	Light
FTR 762-J-1 -----	M33	MGR-1B	Heavy
FTR 762-K-1 -----	M289	MGR-1B	Light
FTR 762-L-1 -----	M289	MGR-1B	Heavy
FTR 762-ADD-A-1 -----	All types	MGR-1A	Heavy
FTR 762-ADD-B-1 -----	All types	MGR-1A	Heavy
FTR 762-ADD-C-1 -----	All types	MGR-1B	Heavy

3. Standardization Agreement (STANAG)

The following STANAGs are not implemented by this manual but are of general interest to

STANAG 2103

STANAG 2104

STANAG 2113

Operator and Organizational Maintenance Manual: Trailer-Mounted 762mm Rocket Handling Units M405 and M405A1.

Operator and Organizational Maintenance Manual (Prelaunch Procedures): Honest John Atomic Warhead Sections M27, M47, and M48 and Training Warhead Section M72(U).

Operator and Organizational Maintenance Manual: 762mm Rockets, MGR-1A and MGR-1B (Honest John Rocket System).

Army Equipment Record Procedures.

Movement of Special Freight.

Field Artillery Battalion, Honest John, Armored Division, Infantry Division, or Infantry Division (Mechanized).

Field Artillery Battalion, Honest John.

should be consulted for the complete title and current status.

users of the manual:

Reporting Nuclear Detonation Radioactive Fallout and Biological and Chemical Attacks.
Friendly Nuclear Strike Warning to Armed Forces Operating on Land.
Destruction of Military Technical Equipment.

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APPENDIX II
TABLES

Table I. Planning Factors for Honest John Firing Operations

Time required for—	Day (min)	Night (min)
1. Receipt, computation, and dissemination of fire missions (add 10 min for computation of second trajectory).....	25	25
2. Assembly and checkout of rocket motor and mating warhead section (remark 1).....	30	45
3. Electrical checkout of the rocket.....	15	20
4. Mating the warhead section to the motor.....	15	25
5. Loading rocket on launcher (remark 2).....	12	20
6. Firing sequence (includes arming the igniter, final electrical connections, and obtaining and placing wind correction on the launcher).....	10	15
7. Preparation of position prior to occupation (less survey).....	10	20
8. Occupation of firing position (organization of position and laying of launcher and windset).....	15	20
March order.....	5	10
9.		

Table II. Time Sequence of Honest John Firing Operations
(Time in Minutes)

Situations I through IV are presented to illustrate typical Honest John firing operations. These situations may be expanded to include other operations anticipated by the unit. For example, situation I lists an elapsed time to fire a prearranged second round from each of four launchers; however, modifications for other situations are variable and should be related to existing unit conditions before estimating the elapsed time.

Situation I. Unit is in prepared position with occupation completed. Fire missions are prearranged for on-call request. Time at which firing can occur (wind corrections are assumed to be available at time of call):

		Day (min)	Night (min)
1st round (4 launchers)	Elapsed time (remarks 3 and 4). Apply wind corrections and fire.	Call+3 (3)	Call+3 (3)
2d round.....	Elapsed time (remarks 2, 3, and 6). Time for 1st round. Loading rocket on launcher. Firing sequence.....	Call+25 (3) (12) (10)	Call+38 (3) (20) (15)

Situation II. Unit is in prepared position with occupation completed. Fire missions are to be conducted on targets of opportunity. Complete rounds with proper warhead sections are available. Time from receipt of the fire mission until firing:

		Day (min)	Night (min)
1st round (4 launchers)	Elapsed time (remarks 3 and 5). Decode, compute, and disseminate fire mission. Apply wind corrections and fire.	28 (25) (3)	28 (25) (3)

Situation III. Firing elements are to occupy prepared positions from march column. For the firing elements to execute fire missions prearranged as to time and place, the occupation should begin the indicated number of minutes prior to firing.

		Day (min)	Night (min)
1st round	Elapsed time (re-	25	35

		Day (min)	Night (min)
(4 launchers)	marks 3 and 7).		
	Occupation of position.	(15)	(20)
	Firing sequence.....	(10)	(15)

Situation IV. Unit is in prepared position with occupation completed. Fire missions are prearranged or are to be conducted on targets of opportunity. Ammunition availability is the critical consideration (*a* and *b* below).

a. Ammunition Not Available at the Firing Position or in the Immediate Area. Assume that all ammunition is received at the same time. Receipt may be at a drop zone (parachute delivery), at a unit storage area, or in the vicinity of the firing position (helicopter delivery). Time from receipt of the ammunition until firing:

		Day (min)	Night (min)
1st round (4 launchers)	Elapsed time (remarks 1, 2, 3, and 7).	52	80
	Assembly and checkout of rocket motor and mating warhead section.	(30)	(45)
	Loading rocket on launcher.	(12)	(20)
	Firing sequence.....	(10)	(15)

b. Proper Warhead Section Not Available at the Firing Position. Assume that all warhead sections are received at the same time. Time from receipt of the warhead section until firing:

		Day (min)	Night (min)
1st round (4 launchers)	Elapsed time (remarks 1, 2, 3, and 7).	37	60
	Mating warhead section.	(15)	(25)
	Loading rocket on launcher.	(12)	(20)
	Firing sequence.....	(10)	(15)

Remarks (applicable to tables I and II).

1. The time indicated is for the M386 launcher ancillary equipment. Double the time when the M33 or M289 launcher ancillary equipment is used and the rocket must be uncanted.

2. Increase loading times by a factor of 2 if the M405 handling unit is used to load the rocket on the launcher.

3. If fire missions include multiple rounds, it is assumed that all rounds are requested simultaneously.

4. Removal of heating blankets is not included in times indicated for firing on-call missions.

5. Add 15 minutes for day and 25 minutes for night if electrical checkout of rocket must be performed at the firing position. This checkout must be performed by firing section personnel—

a. If more than 24 hours have elapsed between testing in the assembly position and firing.

b. If the rocket has been subjected to abuse or rough handling in transit.

c. If the rocket has been subjected to extremes of temperature or humidity since testing.

6. If it is necessary to reposition the launcher (re-lay, etc.), add 10 minutes for day and 15 minutes for night.

7. Travel time is not included. Add travel time when it is known to obtain complete time.

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By Order of the Secretary of the Army:

HAROLD K. JOHNSON,
General, United States Army,
Chief of Staff.

Official:

J. C. LAMBERT,
Major General, United States Army,
The Adjutant General.

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NG: State AG (3); units—same as active Army except allowance is two copies to each unit.

USAR: Same as active Army except allowance is one copy to each unit.

For explanation of abbreviations used, see AR 320-50.